


AR28

Fourteenth Annual Report 1974

 **IMPERIAL METALS AND POWER LTD.**



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DIRECTORS

James Ball	Surrey, B.C.
John Haramboure	Vancouver, B.C.
Chester F. Millar	West Vancouver, B.C.
Douglas L. Price	Vancouver, B.C.

OFFICERS

James Ball – President
W.G. Stevenson – Secretary

REGISTRAR & SHARE TRANSFER AGENT

The Guaranty Trust Company of Canada
Vancouver, B.C.

SOLICITORS

Barbeau, McKercher, Collingwood & Hanna
Vancouver, B.C.

AUDITORS

Campell, Sharp, Nash & Field
Chartered Accountants
Vancouver, B.C.



TO THE SHAREHOLDERS

The past year has seen a great demand for natural resources such as metals and fuels and at the same time the formation of government policies which inhibit resource development. The steel and energy shortages have prompted sharp increases in the selling price of steel and fuels which increase the value of our proven iron and coal reserves and strengthens the economic base for their development. However, government policies at both the Provincial and Federal levels have introduced a large measure of uncertainty in calculating the return to the investor in mineral resource development. Until this uncertainty is removed, resource development will proceed at a much slower pace than the basic economic factors warrant.

The Company holds two iron properties with large low grade reserves and two coal properties with substantial reserves of good quality thermal coal. It also retains an interest in a limestone property which is very well located with respect to transportation and future market growth. At the present time the Tulameen coal property has the best potential for early development. This property could provide the Company with additional cash flow within the next year.

Tulameen Coal

The Tulameen coal deposit, also known as Blakeburn Coal, is favourably located within seven miles by existing road from the railway at Coalmont. Rail distance to Vancouver is 270 miles (less than one half the rail distance of competing coals). Road distance (from the mine to Vancouver) is less than 200 miles. Several million tons of the coal can be mined from surface with quite favourable stripping ratios. The coal is ranked as high-volatile bituminous "B" (Hughes, 1954) and as high-volatile bituminous "C" by most previous examiners. It is a relatively high quality thermal coal which may be handled and stock-piled by normal methods without slacking or danger of self-ignition.

By recent agreement with Dominion Foundries and Steel Limited (Dofasco), the Company has been granted the right to mine and ship 3,250,000 tons of coal. Dofasco, to which the property is leased, will receive a royalty of 50 cents per ton of coal shipped.

The Company is presently involved in negotiating contracts for sale of coal, and has received many inquiries. The coal quality demand ranges from run-of-mine, through intermediate to high quality fully washed.

The value of coal as a fuel is necessarily fixed by the availability and cost of competing fuels. On an international and local basis the major competing fuel is bunker "C", a heavy residual oil derived from the refining process. The selling price of bunker "C", at this writing, is about \$10.00 to \$11.00 per barrel (\$1.50 to \$1.75 per million BTU's) at a tidewater location. This price will vary somewhat depending upon the demand within the immediate area and the sulphur content of the oil. On a local basis competing fuels are natural gas and wood wastes from the forest industry. At present natural gas is available from B.C. Hydro in the lower mainland area at \$0.85 per million BTU's on a firm delivery basis and at about \$0.55 per million BTU's on an interruptable basis. Natural gas is not available on Vancouver Island or at other coastal locations. Full utilization of wood wastes can furnish only 40% to 50% of the fuel required for steam generation in the forest industries.

Pulp and paper mills and cement manufacturers in B.C. not served by a gas supply system are large consumers of bunker oil, a large portion of which is imported. In coal equivalent these industries consume in the order of 1,000,000 tons per year. Other similar industries in the Puget Sound area, which are being forced to discontinue the use of natural gas or are presently using fuel oil, consume in the order of 500,000 tons per year in coal equivalent.

To compete as a fuel for industrial use, coal must sell at about 80% of the cost of bunker oil to compensate for the additional handling costs and the coal must have an equal or lower sulphur content.

Coal ash disposal and particle emission does not present a problem for use in cement kilns since the ash may be incorporated in the product and equipment to effectively control particle emission is of necessity installed. In the pulp and paper industry coal ash handling and disposal will require consideration. However, burning a combination of coal and wood waste may in some cases help reduce troublesome stack emissions.

The sulphur content of the Tulameen coal is 0.4 to 0.5% which is well below that of most bunker oils. The heating value of the Tulameen coal is about 8000 BTU's per pound for run-of-mine material or 11,500 BTU's per pound for coal which may be either a selectively mined product or washed run-of-mine material. The present value of coal at a tidewater location in competition with bunker oil is approximately \$19.00 per ton (2000 lbs) for run-of-mine and \$26.00 per ton for selectively mined or washed coal.



Run-of-mine coal may be produced with very little outlay by the Company. The coal is exposed in open pits previously worked by Mullin's Strip Mines Ltd. Experienced local contractors have expressed their willingness to provide the equipment and to mine and transport the coal to the user on a tonnage basis. We are hopeful that production for this sales contract will start before the year end.

The production of higher quality coal will require more detailed development work to determine the economic mining depth, the most suitable mining method and equipment, and the best location and type of coal beneficiation plant. Additional trenching and sampling along the coal outcrop as a part of a preliminary program was undertaken in August and September of this year (1974).

All indications are that at present competitive values of \$19.00 per ton for run-of-mine and \$26.00 per ton for washed coal, the Company will obtain a substantial revenue from this resource.

Lodestone Iron

The Lodestone iron deposit, which contains the largest proven iron reserve in British Columbia, is about 8 miles further along the existing road which serves the Tulameen coal. The main proven reserves are at an elevation of about 6000 ft. while the Tulameen coal and the railway at Coalmont are at 4500 ft. and 2500 ft. respectively. The iron mineralization occurs in the form of magnetite contained in a large ultra-basic intrusive. The intrusive is zoned with a dunite core surrounded by shells of clinopyroxenite. The outer shell of hornblende clinopyroxenite contains the higher percentage of iron which varies from 5 to 25% and also contains about 0.1% vanadium. The iron may be magnetically separated to provide a 68 - 69% Fe concentrate which contains about 0.26% vanadium. The present value of the contained vanadium is uncertain but may in the future contribute to earnings.

Recent work on the Lodestone property carried out by Cleveland-Cliffs Iron Company under the direction of Dofasco has established that proven and probable reserves within the proposed pit limits are 91,171,000 tons (2000 lb.) with a soluble iron content of 17.3% and a stripping ratio of ~~0.47~~ ^{0.047} cubic yards of waste per ton.

Metallurgical tests have established that this reserve can produce 17,587,000 tons of 68%+ Fe dry concentrate. This quantity of concentrates can furnish 1.17 million tons of dry concentrate per year for a period of fifteen years. Alternatively, these concentrates can be processed to yield 900,000 tons per year of 91% Fe sponge iron for a period of fifteen years — double the annual tonnage previously planned.

The Tulameen coalfield may be utilized to furnish the coal to reduce the iron concentrates to sponge iron. The relationship of the two deposits in distance and elevation makes it possible to convey both the iron and coal in slurry form by gravity pipelines to a processing plant at the railway near Coalmont.

A feasibility study of the Lodestone project completed by Wright Engineers in 1970 concluded that 450,000 tons per year of sponge iron (metallized iron pellets) could be produced at an average cost of \$13.60 per ton for a period of fifteen years for a total initial capital cost of \$37,362,209, and at a selling price of \$30.00 to \$32.00 per ton F.O.B. Coalmont with interest on the total investment allowed at a rate of 9% per year, the profit, after depreciation and income taxes would range from \$33,364,000 to \$40,037,000.

At present, the value of 91% Fe metallized iron pellets F.O.B. Coalmont is in the order of \$90.00 to \$100.00 per ton — about three times the value assumed by Wright Engineers. While operating and construction costs have also increased sharply since 1970 — operating costs about 1½ times — construction costs between 1½ and 2 times the margin between product value and production cost is larger and more favourable to the project. Other major factors which influence the decision to proceed with this development are the cost and availability of investment capital, government royalty and taxation policies, and the general political climate and outlook toward resource development. None of these factors can be considered positive at present. However, firm contracts for sale of the product and a significant improvement in one or more of the other factors could spark a production commitment. A production rate of 1.2 million tons of concentrate per year would provide the Company with a royalty income in excess of \$400,000 per year. In the meantime, the Company continues to receive from Dofasco a lease rental of \$40,000 per year which may increase to \$90,000 per year after 1976 with inclusion of prepaid royalties.

Merritt Coal

The Company holds by Crown Grant the coal rights previously held by Middlesboro Collieries on the outskirts of the town of Merritt. The railway skirts the minesite. Water, power and all other services are immediately available.

The coal is of similar but somewhat higher quality than the Tulameen coal. It is clearly ranked as high volatile bituminous "B". At least one of the seams has fairly good coking properties but the reserve contained in



this seam does not warrant development as a source of coking coal only. In the same period of time (from about 1900 to 1950) that several million tons of coal were mined by underground methods from the Tulameen deposit an approximately equal amount of coal was mined by underground methods at Merritt.

A preliminary study of the Merritt Coal by Sumicol Consultants in 1970 estimated that the mineable reserves are sufficient to furnish about 380,000 tons (2000 lb) of clean coal per year for a period of twenty years. All mining would be underground. Direct mining and washing cost was estimated at about \$4.75 per ton with a total capital cost of about \$5,700,000. A rough updating of the 1970 estimates indicates a mining and washing cost of \$12.00 per ton and a total capital cost in the order of \$9,000,000. Assuming a rail transportation cost to Vancouver (230 miles) of \$5.00 per ton, a selling price of \$26.00 per ton FOB Vancouver could be sufficient to encourage development. The rapid increase in the value of thermal coal in the past few months makes it mandatory to take a serious look at the possibility of an early development of this property.

It should be mentioned in connection with the development of the Tulameen, Lodestone, and Merritt properties that all are in an area with a well developed infrastructure, a pleasant climate, within easy reach of major metropolitan centres, and favourably located with respect to distance to markets. It is logical both from a social and economic viewpoint that these resources be developed in preference to those in more remote and less attractive living areas.

Peace River Iron

The Company acquired a 90% interest in five iron leases covering over 40,000 acres in the Clear Hills district of Northern Alberta about 300 miles northwest of Edmonton. The properties are leased from the Province of Alberta at an annual lease rental of \$40,056.00. The previous leaseholder, Peace River Mining and Smelting Limited, retains a 10% carried interest. Proven reserves are 226,750,000 tons grading 34% Fe mainly in the form of weakly magnetic iron minerals such as goethite ($\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$) contained in flat lying beds of oolitic sandstone. Probable additional reserves total 692,225,000 tons of about the same grade. The deposits may be readily mined by surface methods. Overburden on the proven reserves varies from zero to a maximum of 130 feet. Much test work has been done by previous holders to develop an economic method of upgrading the iron bearing material to a form suitable for steelmaking. The material is inherently difficult to beneficiate and so far no practical method has been devised. Test work undertaken by the Company, in particular electron microprobe analysis of the material, indicates that the ore cannot be substantially beneficiated by any known low-temperature physical method. Chemical solution and reprecipitation of the iron has been extensively tested and has not proven economic.

This type of ore has been successfully utilized in Britain and Europe employing blast furnaces and steelmaking methods adaptable to a fairly high phosphorous content in the hot metal. If the blast furnaces are specially designed to handle a high slag volume, the major penalty in the use of such low-grade silicious ore is the additional consumption of coke and limestone. However, if these materials are available a less than usual cost, which may very well be the case, the comparative costs may not be substantially higher than those of a steel works using high grade ores in a location with much higher fuel costs. The major problem with the blast furnace method is the high capital cost of constructing a minimum of two blast furnaces with related coke-making facilities. To achieve a reasonable return on investment the plant steelmaking capacity must be in excess of 1.5 million tons per year.

An alternative steelmaking method has been extensively tested. Five thousand tons of ore was upgraded to a 90% Fe sponge iron by reduction in the R-N (now SL/RN) coal fired rotary kiln followed by regrinding and magnetic concentration. The 90% Fe product was melted and refined in a standard electric furnace to produce good quality steel. This sponge iron — electric furnace method is more adaptable to small scale production — 500,000 tons per year or less. The kiln process works best employing low-quality sub-bituminous coal as opposed to high-quality coking coal required for the blast furnace. Large reserves of sub-bituminous coal mineable by surface methods are available within a relatively short distance of a suitable plant site at the town of Peace River. It is possible that steel can be made from the Peace River ores with the advantage of low-cost fuels at a delivered cost competitive with steel produced outside the Province of Alberta.

On Behalf of the Board

James Ball, President

J. I. WATTERS
N. M. CRUTE
F. GRAHAM
E. J. O'CONNELL
C. J. DOWNING
K. M. DYE
J. A. CHARLESWORTH
H. F. FIELD
C. S. NICHOLL
N. G. RUSSELL
W. H. DYCK
A. B. CRERAR
D. D. GRAHAM

CAMPBELL, SHARP, NASH & FIELD
CHARTERED ACCOUNTANTS
BANK OF CANADA BUILDING
900 WEST HASTINGS STREET
VANCOUVER, B. C.

OFFICES ACROSS CANADA

INTERNATIONAL FIRM
PANNELL, KERR, FORSTER
& COMPANY

TELEPHONE 687-2711

August 23, 1974.

TO THE MEMBERS,
IMPERIAL METALS & POWER LTD.,
VANCOUVER, B. C.

WE HAVE EXAMINED THE BALANCE SHEET OF IMPERIAL METALS & POWER LTD., AS AT APRIL 30, 1974, AND THE SOURCE AND APPLICATION OF WORKING CAPITAL STATEMENT AND EXPLORATION AND DEVELOPMENT COSTS SCHEDULE FOR THE YEAR THEN ENDED. OUR EXAMINATION INCLUDED A GENERAL REVIEW OF THE ACCOUNTING PROCEDURES AND SUCH TESTS OF ACCOUNTING RECORDS AND OTHER SUPPORTING EVIDENCE AS WE CONSIDERED NECESSARY IN THE CIRCUMSTANCES.

IN OUR OPINION THESE STATEMENTS PRESENT FAIRLY THE FINANCIAL POSITION OF THE COMPANY AS AT APRIL 30, 1974, AND THE RESULTS OF ITS OPERATIONS AND THE SOURCE AND APPLICATION OF ITS WORKING CAPITAL FOR THE YEAR THEN ENDED, IN ACCORDANCE WITH GENERALLY ACCEPTED ACCOUNTING PRINCIPLES APPLIED ON A BASIS CONSISTENT WITH THAT OF THE PRECEDING YEAR.

Campbell, Sharp, Nash & Field

CHARTERED ACCOUNTANTS.

IMPERIAL METALS & POWER LTD.

BALANCE SHEET

AS AT APRIL 30, 1974

A S S E T S

CURRENT:

CASH
DEPOSIT RECEIPTS
ACCOUNTS RECEIVABLE
PREPAID EXPENSES

1974

1973

\$		\$	44
	30,000		91,500
	5,507		1,078
	<u>36,106</u>		
	71,613		92,622

MINING PROPERTIES (NOTES 2, 3 AND 4)

978,003	985,503
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EQUIPMENT - AT COST

6,519

DEDUCT: ACCUMULATED DEPRECIATION

2,754

3,765	2,193
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EXPLORATION AND DEVELOPMENT COSTS - PER
SCHEDULE 1

1,221,822	1,189,398
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INCORPORATION EXPENSE

<u>1,950</u>	<u>1,950</u>
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\$ <u>2,277,153</u>	\$ <u>2,271,666</u>
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L I A B I L I T I E S

CURRENT:

BANK OVERDRAFT
ACCOUNTS PAYABLE

\$ 16,973	\$
<u>1,528</u>	<u>7,083</u>
18,501	7,083

DEFERRED LEASE REVENUE

26,667	25,098
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SHAREHOLDERS' EQUITY

SHARE CAPITAL:

AUTHORIZED

200,000 6% NON-CUMULATIVE REDEEMABLE

PREFERENCE SHARES OF \$10 EACH

5,000,000 COMMON SHARES OF NO PAR VALUE

ISSUED AND FULLY PAID

3,526,298 COMMON SHARES

2,358,136

DEFICIT (NOTE 4)

126,151

<u>2,231,985</u>	<u>2,239,485</u>
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\$ <u>2,277,153</u>	\$ <u>2,271,666</u>
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APPROVED ON BEHALF OF THE BOARD

..... *James Ball* DIRECTOR

..... *C. F. White* DIRECTOR

IMPERIAL METALS & POWER LTD.SOURCE AND APPLICATION OF WORKING CAPITAL STATEMENTFOR THE YEAR ENDED APRIL 30, 1974

	<u>1974</u>	<u>1973</u>
<u>SOURCE:</u>		
ISSUE OF SHARES	\$	\$ 98,000
		<hr/>
<u>APPLICATION:</u>		
NET COSTS FOR THE YEAR - PER SCHEDULE 1	32,424	2,480
<u>ADD:</u> ITEMS NOT RESULTING IN A CHANGE IN CURRENT WORKING CAPITAL		
CHANGE IN DEFERRED LEASE REVENUE	(1,569)	37,647
DEPRECIATION	(938)	(750)
	29,917	39,377
PURCHASE OF EQUIPMENT	2,510	1,610
PURCHASE OF MINING CLAIMS		2,500
	<hr/> 32,427	<hr/> 43,487
<u>INCREASE (DECREASE)</u>	(32,427)	54,513
<u>WORKING CAPITAL - BEGINNING OF YEAR</u>	<u>85,539</u>	<u>31,026</u>
<u>WORKING CAPITAL - END OF YEAR</u>	\$ 53,112	\$ 85,539
	<hr/> <hr/>	<hr/> <hr/>

IMPERIAL METALS & POWER LTD.EXPLORATION AND DEVELOPMENT COSTS SCHEDULEFOR THE YEAR ENDED APRIL 30, 1974

	<u>1974</u>	<u>1973</u>
<u>TOTAL DEVELOPMENT COSTS - BEGINNING OF YEAR</u>	\$ <u>1,189,398</u>	\$ <u>1,186,918</u>
<u>ADD: EXPENDITURES:</u>		
EXPLORATION AND DEVELOPMENT		
DRILLING	13,532	6,943
ENGINEERING CONTRACTS	6,140	2,960
ASSAYS AND TESTING	6,511	1,064
PROPERTY LEASES, LICENSES AND TAXES	14,885	3,894
FIELD SALARIES	2,303	
FIELD TRAVEL	1,775	
SUNDRY	931	566
	<u>46,077</u>	<u>15,427</u>
ADMINISTRATION		
LEGAL, AUDIT AND ACCOUNTING	5,038	5,565
MANAGEMENT TRAVEL	5,765	4,582
SHAREHOLDERS' INFORMATION AND REPORTS	1,341	856
TELEPHONE AND TELEGRAPH	2,240	973
INTEREST AND BANK CHARGES	385	111
FILING FEES	450	1,166
SHARE ISSUE AND TRANSFER FEES	2,986	2,965
SALARIES AND EMPLOYEE BENEFITS	25,561	26,223
CAPITAL TAX	777	
RENT	1,934	1,818
DEPRECIATION	938	750
SUNDRY	1,467	961
	<u>48,882</u>	<u>45,970</u>
	<u>94,959</u>	<u>61,397</u>
<u>DEDUCT: ADVANCE ROYALTIES (NOTE 3)</u>	<u>20,000</u>	<u>20,000</u>
LEASE REVENUE (NOTE 3)	38,431	37,647
INTEREST INCOME	4,104	1,270
	<u>62,535</u>	<u>58,917</u>
<u>NET COSTS FOR THE YEAR</u>	<u>32,424</u>	<u>2,480</u>
<u>TOTAL DEVELOPMENT COSTS - END OF YEAR - TO BALANCE SHEET</u>	\$ <u>1,221,822</u>	\$ <u>1,189,398</u>

MINERAL METALS LTD.
ANNUAL FINANCIAL REPORT
APRIL 30, 1974

NOTE 1: SIGNIFICANT ACCOUNTING POLICIES:

A) MINING PROPERTIES ARE RECORDED AT THEIR ACQUISITION COST INCLUDING, WHERE APPLICABLE, THE RECORDED VALUE OF SHARES ISSUED AS CONSIDERATION THEREFOR. THESE COSTS ARE CARRIED IN THE ACCOUNTS UNTIL SUCH TIME AS A PROPERTY OR GROUP OF PROPERTIES IS ABANDONED OR OTHERWISE DISPOSED OF BY THE COMPANY, AT WHICH TIME THE BOOK VALUE IS WRITTEN OFF TO THE DEFICIT ACCOUNT.

B) DEPRECIATION IS RECORDED AS FOLLOWS:

OFFICE EQUIPMENT - 20% PER ANNUM ON A REDUCING BALANCE BASIS.

FIELD EQUIPMENT - 30% PER ANNUM ON A REDUCING BALANCE BASIS.

C) EXPLORATION AND DEVELOPMENT COSTS, NET OF REVENUES AND EXPENSE RECOVERIES, ARE ACCUMULATED AS A DEFERRED CHARGE ON THE BALANCE SHEET, TO BE WRITTEN OFF AGAINST REVENUE PRODUCED FROM PROPERTIES HELD BY THE COMPANY.

NOTE 2: PROPERTY LEASES:

THE COMPANY HAS ACQUIRED A 90% INTEREST IN FIVE IRON LEASES IN THE PEACE RIVER AREA OF THE PROVINCE OF ALBERTA. THE LEASES ARE FOR PERIODS OF TWENTY-ONE YEARS EXPIRING FROM 1983 TO 1986 AND THE 1974-75 LEASE PAYMENTS WERE \$40,45, OF WHICH \$36,106 IS APPLICABLE TO THE PERIOD SUBSEQUENT TO APRIL 30, 1974 AND HAS BEEN SHOWN AS A PREPAID EXPENSE. ROYALTIES WILL BE PAYABLE TO THE PROVINCE OF ALBERTA AT PREVAILING RATES AT SUCH TIME AS PRODUCTION COMMENCES.

NOTE 3: LODESTONE IRON AND COALMONT COAL PROPERTIES:

THESE PROPERTIES ARE UNDER LEASE BY THE COMPANY TO DOMINION FOUNDRIES AND STEEL LIMITED. UNDER THE TERMS OF THE LEASE THE COMPANY WILL RECEIVE AN ANNUAL RENT OF \$40,000 UNTIL THE EARLIER OF DECEMBER 31, 1981 OR THE DATE OF MAKING A PRODUCTION DECISION OR THE ABANDONMENT DATE. IN ADDITION, ROYALTIES WILL BE DUE FOR IRON, COAL AND OTHER MINERAL PRODUCTS SHIPPED FROM THE PROPERTIES. ADVANCE ROYALTIES WILL BE RECEIVED AT THE RATE OF \$50,000 PER YEAR AFTER 1976 UNTIL THE PRODUCTION DATE OR THE ABANDONMENT DATE.

THE LESSEE HAS THE RIGHT TO WITHDRAW FROM THE AGREEMENT ON THREE MONTHS NOTICE, AND HAS THE OPTION, EXERCISABLE IF NO PRODUCTION DECISION IS MADE, TO ACQUIRE A MAXIMUM OF 500,000 SHARES ON THE BASIS OF FIVE SHARES FOR EACH DOLLAR PAID ON ACCOUNT OF RENT AND ADVANCE ROYALTIES.

NOTE 4: OTHER MINING PROPERTIES:

A GROUP OF MINERAL CLAIMS ACQUIRED IN 1972 AT A COST OF \$7,500 IN CASH AND SHARES WERE ALLOWED TO LAPSE IN THE YEAR AND ACCORDINGLY THE BOOK VALUE WAS WRITTEN OFF, INCREASING THE BALANCE OF THE DEFICIT ACCOUNT TO \$126,151. THE COMPANY HELD AN OPTION TO ACQUIRE A 60% INTEREST IN CERTAIN CLAIMS IN THE KAMLOOPS AREA BY SPENDING A TOTAL OF \$200,000 ON THE CLAIMS. AFTER ASSESSMENT OF THE RESULTS OF THE INITIAL WORK, THE COMPANY DID NOT PROCEED WITH THIS ACQUISITION.

NOTE 5: REMUNERATION OF MANAGEMENT:

NO REMUNERATION WAS PAID OR PAYABLE TO THE DIRECTORS OF THE COMPANY IN THEIR CAPACITY AS DIRECTORS. THE AGGREGATE REMUNERATION PAID OR PAYABLE BY THE COMPANY IN THE YEAR TO ITS SENIOR OFFICERS WAS \$25,000.

